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Art Unit: 3653  
Response to Office Action mailed 06/15/2006

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Remarks and Arguments:

Claims 1, 7 and 11 have been previously cancelled. Claims 9 and 13 have been amended. Accordingly, claims 2 to 6, 8 to 10 and 12 to 13 remain for consideration in this application.

The Examiner has objected to claims 2-6, 8-10, 12-13 under 35 U.S.C. § 112, second paragraph for failing to particularly point out and distinctly claim the subject matter of the invention.

In response to the Examiner's objection to claim 9, this claim has been amended such that "said discharge chute" now reads - -said discharge end- -.

In response to the Examiner's objection to claim 13, this claim has been amended to identify each "nip" as either a - -first- - or - -second- - nip, and such that the expression "the single flat media elements" now reads - -the separated media elements- -.

The amendments made to the claims are in response to the Examiner's objections and put the claims in better form for appeal. These are clarifying amendments only and do not constitute a new issue. The scope of the claims has not been amended.

The Examiner has rejected claims 2, 3, 5, 6, 8, 10 and 13 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,978,114 (Holbrook) in view of U.S. Patent 5,641,155 (Bridges) and further in view of U.S. Patent 6,550,764 (Wilson et al.). Applicant respectfully traverses this rejection for the reasons set out below.

The present invention relates to a bottom feed dispenser for dispensing flat media stored in a media bin to a discharge chute along a feed path. The dispenser can be used for any type of media as disclosed in paragraph [0026] of the present description. However, this dispenser is specifically designed to handle heavy items, such as catalogues. The weight of such items generally makes it very difficult to feed them singly off the bottom of a stack. Prior art attempts have generally resulted in multiple items being drawn off the stack together rather than singly. In accordance with the principles of the invention, a coarse media separator comprising a first nip roller defining a first nip with the rear conveyor cooperates with the rear conveyor to feed media elements off the bottom of the stack on said rear conveyor in a flat shingled relationship. A driven front conveyor downstream of the rear conveyor forwards said flat media elements as single elements in a non-shingled relationship. A single media separator downstream of the rear conveyor receives flat shingled media elements from the rear conveyor. Finally, a

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transport conveyor carries the single flat media elements from the front conveyor to the discharge end.

A first height adjustment mechanism sets a first vertical spacing between the first nip roller and the rear conveyor, and a second height adjustment mechanism sets a second vertical spacing between the second nip roller and the front conveyor.

In the present invention, the expression flat shingled relationship is defined to be one in which the leading edge of a media element overlies the trailing edge of a next adjacent media element.

The rear conveyor travels at a velocity  $V_R$ , the front conveyor travels at a velocity  $V_F$ , and the transport conveyor travels at a velocity  $V_T$ .

There are also three sensors along the feed path to provide signals to control the  $V_R$ ,  $V_F$  and  $V_T$ , so that the media are passed along the feed path with adequate gaps therebetween.

In rejecting claim 13, the Examiner has agreed that Holbrook does not teach or suggest a first nip roller or first and second height adjustment mechanisms. However, the Examiner has argued that Bridges teaches that a height adjustment mechanism can be adjusted such that either a single flat element or a shingled array of elements can be fed. The Examiner has argued that it would be obvious for one skilled in the art to modify Holbrook to include a coarse media separator, single media separator and first and second height adjustments in view of Bridges.

Applicant submits that a combination of Holbrook and Bridges cannot teach or suggest a dispenser having a coarse media separator, single media separator and first and second height adjustments as recited in present independent claim 13 for the reasons set out below.

As noted above, an important difference between the present invention and the cited references is that the present invention is designed to handle heavy items such as catalogues. In order to ensure that the media elements are in a shingled relationship on the rear conveyor at the coarse media separator, the height of the first nip roller is adjustable and settable at a set spacing above the rear conveyor. The shingled media elements are in a shingled relationship such that they are in "a shingled relationship wherein the flat media elements lie flat on the conveyor with the leading edge of one said

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media element overlying the trailing edge of a preceding said media element", as defined by claim 13.

In contrast, Holbrook is specifically directed at singling "sheet members, such as envelopes" (column 1, line 6). The weight of the medium elements that the present invention is used for poses unique problems over sheet-like media. In Holbrook the first roll assembly is merely presented with a skewed stack, which is not the same thing as the shingled media elements of the present invention. In particular, the Examiner's attention is directed to Figure 1 of Holbrook which clearly illustrates that the media are not arranged "flat" as recited in claim 13 on the rear conveyor. The envelopes illustrated in Figure 1 are merely staggered and stacked in relation to one another, and they do not lie flat on the conveyor.

However in the present invention, a true shingling of the heavy catalogues is particularly achieved by the driven rear conveyor and the first nip roller of the coarse media separator working cooperatively "to feed said media elements off the bottom of the stack onto said rear conveyor in said shingled relationship", as defined in new claim 13. And this shingling relationship between the heavy catalogues is what facilitates singulation of the catalogues by the single media separator.

Therefore, it is submitted that Holbrook does not teach a "shingling" relationship as defined by present claim 13. It is further submitted that Bridges also does not teach a flat shingled relationship; see Figure 5 of Bridges. Although Bridges refers to a "shingled arrangement", the documents of Bridges are not arranged in "a shingled relationship wherein the flat media elements lie flat on the conveyor with the leading edge of one said media element overlying the trailing edge of a preceding said media element", as defined by present claim 13. Therefore, neither reference teaches or appreciates the advantages of a true shingling relationship as achieved by the present invention.

In the present invention, a vertical space between each nip roller and its respective conveyor is deliberately set with the aid of a height adjustment mechanism. The flat shingled relationship of the present invention is achieved by the first nip roller that provides a positive feed of shingled media elements, which results in a positive partial separation of the catalogues.

Applicant submits that there is no way a person skilled in the art would have combined the height adjustment of the nip of Bridges to arrive at the first height

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adjustment of the coarse media separator and the second height adjustment of the single media separator as defined by present claim 13. Firstly, Applicant submits that there is no motivation to combine Holbrook and Bridges to introduce an adjustable gap from Bridges to the device of Holbrook. Bridges teaches that a nip adjustment knob 44 is used to deliberately set the distance that the roller 17 can move upward without compressing spring 49; thus the compression of spring 49 and the resulting downward force of spring 49 on roller 17 are adjustable. This adjustment can be made responsive to a number of factors, such as the desired height of items to be conveyed (see column 4, lines 36 to 58).

In contrast, the machine of Holbrook is only useful for sheet-like articles, such as envelopes. There is no need or desire in Holbrook for height adjustment of rollers 169 and 217. In fact, springs 235 and 241 urge the rollers downwards against the conveyor deck (see Abstract).

There is no motivation for one skilled in the art to combine the teachings of Holbrook and the teachings of Bridges to provide height adjustment to the device of Holbrook. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Introducing a height adjustment to the device of Holbrook would change the principle of operation since the rollers of Holbrook are urged downwards against the conveyor.

Secondly, the Examiner has further extrapolated and argued that it is not only obvious to combine the height adjustment of Bridges to the coarse media separator of Holbrook, but also to the singulator of Holbrook. However, Bridges is only directed to a prefeeder that conveys media in a stack therethrough for further processing. The prefeeder is analogous to the coarse media separator of present claim 13. There is no indication in Bridges of what the further processing entails. There is certainly no teaching or suggestion of a single media separator as recited in present claim 13.

Accordingly, it is submitted that a combination of Holbrook and Bridges cannot teach or suggest a dispenser having a coarse media separator, single media separator and first and second height adjustments as recited in present independent claim 13.

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The Examiner has also argued that it would have been obvious to combine the teachings of Wilson et al. with Holbrook to arrive at the first, second and third sensor arrangement as claimed in present claim 13.

The Examiner has stated that Wilson et al. teach controlling the speed of belt 18 of input feed 17, aligner 31 and second singulator feed assembly 50 to "better enforce gap size" between documents.

In Holbrook, the envelopes travel from station 2 along driven rollers 10 to belt 6. Along belt 6, they are input to singulator station 4 comprising first frame 161 and second frame 185. Roller 169 of the first frame 161 receives the envelopes along belt 6 which are then input to roller 217 of second frame 185 and finally output along belt 6 for further processing downstream to stations 8 and 9. Each of the first frame 161 and second frame 185 are pivotally mounted to shaft 173. It is specifically taught that the separation between stations 2, 4, 8 and 9 "is less than the length of the smallest envelope processable by the feeder 1" (see column 2, lines 34 to 36).

Therefore, in Holbrook there is no teaching or suggestion that the speed of the envelopes can be variable as they are input to and output from the singulator station 4. In fact, during the entire process the envelopes only travel along a single belt, namely belt 6. Further, motor 11 controls both shaft 173 and belt 6, so the belts of the first and second frames and belt 6 are all simultaneously controlled.

Applicant submits then that the teachings of Holbrook and Wilson et al. are so divergent, that one skilled in the art would not be motivated to combine the teachings. "It is improper to combine references where the references teach away from their combination." *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). Therefore, the first, second and third sensor arrangements as recited in present claim 13 are not obvious in light of the references.

In view of the above arguments, Applicant submits that the Examiner has not raised a prima facie case of obviousness of present claim 13. In particular, a combination of Holbrook and Bridges does not produce the height adjustments of present claim 13, and a combination of Holbrook and Wilson et al. does not produce the sensor arrangements of present claim 13.

Dependent claims 2, 3, 5, 6, 8, 10 depend either directly or indirectly from independent claim 13, and include all of the limitations of its respective parent claim.

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Therefore, the dependent claims are believed to be distinguishable over the cited references for at least the same reasons as those given to the respective parent claims.

With respect to claim 5, the Examiner has argued that "Holbrook shows the transport conveyor (9) has upper and lower conveyors". However, it is submitted that in the present invention the transport conveyor serves to receive the output of documents from the single media separator. In Holbrook it is belt 6 that receives the envelopes from singulator station 4. Element 9 of Holbrook is a flat moistening station, which is provided as an additional processing station after the envelopes are singulated. This is not analogous to the transport conveyor of the present invention. Therefore, the "transport conveyor" of Holbrook does not comprise upper and lower conveyors.

Further, the Examiner has made the unsubstantiated comment that, even though none of Holbrook, Bridges and Wilson et al. teach the use of upper and lower belts, that it would be obvious to substitute a plurality of belts for the rollers. Applicant respectfully traverses this and respectfully requests that the Examiner cite art in support of this position.

With respect to claim 6, the Examiner has made the unsubstantiated comment that a person skilled in the art would find it obvious to convey any suitable media on the Holbrook apparatus. The Examiner has once again inappropriately cited *In re Leshin* in support of this position. However, *In re Leshin* was concerned with the use of a plastic material chosen for its properties known to be suitable for its intended purpose. As mentioned above, Holbrook is intended for singulating sheet members such as envelopes, which are generally easier to singulate than heavy items, such as catalogues, which because of their weight are very difficult to singulate off the bottom of a stack. One skilled in the art attempting to use Wilson for singulating heavy material, such as catalogues, would encounter precisely the problems that the invention seeks to overcome, namely that because of the weight of the stack of documents any separator attempting to singulate the documents off the bottom of the stack without the claimed means would tend to jam or pass more than one item.

With respect to claim 10, as mentioned above, the Examiner has erroneously equated the transport conveyor of the present invention with element 9 of Holbrook. However, element 9 of Holbrook is a flat moistening station, which is provided as an additional processing station after the envelopes are singulated. It is submitted that belt 6

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of Holbrook serves as both the front and transport conveyors of the present invention. And therefore, Holbrook cannot teach or suggest that whenever said front conveyor starts its operation, said transport conveyor also starts its operation.

The Examiner has rejected claims 4 and 12 under 35 U.S.C. § 103(a) as being obvious in view of Holbrook in view of Bridges and further in view of Wilson et al. and further in view of U.S. Patent 4, 928, 944 (Golicz). Applicant respectfully traverses these rejections for the reasons set out below.

Dependent claims 4 and 12 depend either directly or indirectly from independent claim 13, and include all of the limitations of its respective parent claim. Therefore, dependent claims 4 and 12 are believed to be distinguishable over the cited references for at least the same reasons as those given to the respective parent claims.

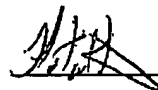
The Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as being obvious in view of Holbrook in view of Bridges and further in view of Wilson et al. and further in view of U.S. Patent 5, 358, 229 (Groel et al.). Applicant respectfully traverses these rejections for the reasons set out below.

Dependent claim 9 depends either directly or indirectly from independent claim 13, and includes all of the limitations of its respective parent claim. Therefore, dependent claim 9 is believed to be distinguishable over the cited references for at least the same reasons as those given to the respective parent claims.

In view of the above, Applicant submits that claims 2-6, 8-10, 12 and 13 pending in this application are believed to be distinguishable over the cited reference and should be allowed.

Accordingly, Applicant respectfully requests a timely Notice of Allowance be issued in this case.

Respectfully submitted,



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